

Forest parks and sustainable development of ecotourism in China

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Abstract In the spirit of the trend toward opening and reforming China, the State Forestry Administration has taken advantage of the opportunity to improve forest parks and develop forest-based ecotourism. The State Forestry Administration has experienced great success in a short time. By 1997, the State Forestry Administration had built 874 forest parks, with a total area of 7.48×10^6 hm². More than 50 000 000 tourists visited the parks each year. The forest parks have become the new focus of forest-based ecotourism in China. This success demonstrated that the use of forest resources and the development of tourism had moved into a new period. To assure the healthy growth of forest-based ecotourism in China, based on the theory of sustainable development, we have made several suggestions about how to improve forest parks and develop forest-based ecotourism. Our recommendations are grounded in the principles of resource protection, moderate exports of forest products, and recognition of the special character of individual park.

Key words: Ecotourism, Forest parks, Sustainable development, China

Introduction

Since 1935, the science of ecology has become an important subject. With the rapid growth of the international economy after World War II and increased industrialization, some western countries raised the slogans of "ecology awake" and "back to nature" in the 1960s. In keeping with that theme, many kinds of ecology-oriented parks were established (e.g., forest parks, nature parks, and national parks; Deng 1997). By the 1990s, ecotourism had grown so rapidly that it had become the one of the most important forms of tourism worldwide.

What is ecotourism? Ecotourism is a travel activity that focuses on ecology, traditional cultures, and programs that reflect those themes. Among the many kinds of ecotourism there are oriented toward forests, oceans, grasslands, mountains, and traditional cultures. Of these, the most popular form of ecotourism is related to forestry (Wang 1996).

One of the important government responses to the demand for forest tourism is to concentrate on comprehensive forest management by protecting the environment while continuing to carry out a development strategy. During the 1992 International Conference of Environment and Development, the United Nations produced a document outlining a long-term

development strategy. The document demonstrates how ecotourism and other non-destructive uses of natural resources can improve the value of forests. Forest ecotourism is a multi-layered activity. Tourists may either directly or indirectly use forest resources and still may be included in the category of ecotourism. The main ecotourism use is based on the sightseeing resources of the forest. In this non-consumptive use of the forest, the tourists enjoy the forest's ecological environment by somehow reconnecting to nature in a way that cultivates the civilization of human beings (Inglehart 1995). It has the functions of relaxing body, hunting for the wonderful view, exploring for knowledge, maintaining health, molding one's personality, inspiring art, and so on.

Building forest parks and developing forest ecotourism are highly visible programs within the Chinese State Forestry Administration as it comprehensively develops and uses forest resources. In recent years, the State Forestry Administration changed the idea of forest reserves, deepened reform of forest management, and used its resources to produce a high quality tourism environment for society. The work of the State Forestry Administration is important evidence of its determination to develop ecologically and economically sustainable forests, and expand the Chinese peoples' acknowledged relationship between human beings and forests. It is also a systematic project to completely develop the economic benefits of the forest. To develop forest ecotourism is to follow the trend of the times, and cater to people's material and cultural demands. Because it conforms to the demands of society, forest ecotourism has

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great prospects.

Current situation in China

Ecotourism has a long history in China. However, it became a large-scale industry in China just after the government established the policy of reform and open doors. China built the first forest park in 1982: Zhangjiajie National Park. It gave people a beautiful park, noted for its magical landscape and graceful environment, and it set an example for successful ecotourism in China. By the end of 1997, there were 874 forest parks of many types and different administrative levels all over the country. Each park emphasizes some natural majestic character, peculiarity, wildness, grace, seclusion, cultural history, folklore, or unique ecological climate. These resources have attracted more than 50 000 000 visitors each year (State Forestry Administration 1997).

Chinese forest parks focus on large landscapes in which there are large concentrations of animals, unique natural landscapes, or cultural resources. Forest parks were established on the precondition of protection and multiple uses. They support many tourism services as well as areas for scientific and cultural research. For example, these protected areas provide opportunities for what is called a "forest bath" in which people engage in all kinds of activities within a lovely forest context, such as, roaming, singing, dancing, camping, sightseeing, exploring and amusing. People use the parks to directly breathe in all the elements emitted from green plants, so as to benefit their skin, liver and lungs and generally keep healthy. The whole experience is just like bathing.

Types of forest parks

Forest parks are divided into many types: There are mountain parks, lake parks, desert parks, glacier parks, island parks, seashore parks, mountain cave parks, hot spring parks, grassland parks and garden parks and so on. Mountain parks are the most common types of forest park in China. The earliest forest park, Zhangjiajie National Park, is this kind of Park, located in Zhanjiajie County, Hunan Province. The landscape of Zhangjiajie National Park is mainly quartz sands, huge pine trees and a great canyon that is unique in the world. There are three thousand high and precipitous peaks that rise as high as 800 km and rivers encircling around. The plant cover is full of the taste of the wild. Since the park was established, it has gained worldwide fame for its natural views. In 1992, the core area of Zhangjiajie Forest Park was selected for the List of World-Wild, Natural, and Cultural Heritage by UNESCO. Because of this designation, Dayong County where the park is locat-

ed changed its name to Zhangjiajie City. Zhangjiajie National Park was an important park that was listed in "The Best View" in 1997 China Tourism Year published by the National Tourism Bureau. As tourism increased in Zhangjiajie, the park paid special attention to protecting forest resources and helped local peasants move out of poverty. In 1997, the State Forestry Administration granted Zhangjiajie National Park the designation as one of the "ten model national parks". Other mountain parks include: Yunneng Mountain Forest Park in Beijing, Qingcui Peak Forest Park in Hebei, Huangya Cave Forest Park in Shanxi, Tiantang Village Forest Park in Anhui, Wawu Mountain Forest Park in Sichuan, Bajiao Village Forest Park in Guangxi, Lianhua Mountain Forest Park in Gansu, and Kanbula Forest Park in Qinghai.

The typical characteristic of lake type forest parks is broad areas of water surrounded by green hills. For example, Thousand-Island Lake National Park, Zhejiang, is famous for its 53 thousand-hectare water surface and 1 078 islands. The park management has made great efforts to plant trees and has raised the tree cover from 23.8% to 79.1%, which enhances the images of clean water surrounded by green hills. The park pays special attention to develop the particular form of forest tourism best suited to its situation. The sites opened to tourism in Thousand Islands Lake Forest Park are Stone Forest in Gui Island, Sky Lake, and Lu Hill Island, among others. The sites set aside for animals include Shenlong Island, Monkey Island, Bird Island and Deer Island. Tourists at this park enjoy all kinds of water activities. The traditional program for tourists in Thousand Island Lake Forest Park is catching fish with an enormous net, which can catch one hundred thousand Jin of fish at once. Thousand-Islands-Lake has been an important tourism attraction in China, and was recognized as one of "ten model national parks". Bay Forest Park in Henan, Qing River Forest Park in Hubei, and Liuxi Brook Forest Park in Guangdong are similar forest parks.

Volcano Entrance National Park in Heilongjiang Province is a typical park. The volcano erupted ten thousand years ago. There remain in the park some volcano clatters that have steep sides and unusual shapes. The biggest one is more than six hundred meters in diameter and about three hundred meters in depth. There are many kinds of trees at the bottom of the clatters and on the surrounding cliffs. The trees are about five or six hundred years old.

The mysterious underground forests attract thousands of tourists. Visitors lavishly praise the special views in these parks. Changbai Mountain Forest Park, Shanjiaolong Bay Forest Park in Jinlin, Xijiao Mountain Forest Park in Guangdong, and Laifeng Mountain Forest Park in Yunnan have beautiful views of volca-

noes. The "Tong Tian Luo," Nanling National Park, Guangdong, is famous for its underground forest growing at the bottom of rock caves.

By demonstrating the sharp contrast between arid lands and verdant forests, the desert shows people a vivid picture of the complicated relation between nature and human development. These ecosystems show how difficult it is to change the ecology and protect the environment. Huyang Forest Park of Talimu in Xinjiang covers 2.4×10^4 hm². It is the largest Huyang forest in the deserts of the world. Huyang is like the "desert hero" standing between the land and the sky. It struggles during the bad conditions of hot summers and cold winters, with rainfall that is only about 10 mm per year. Even so, trees can grow to be 20 m high and one meter in circumference. This is an attractive scene in the desert. Kerqin Sand Forest Park in Mongolia, Zhanggutai Sand Forest Park in Liaoning, Dingbian Sand Forest Park in Shanxi, and Yangguan Sand Forest Park in Gansu are this kind of forest park.

Hailuoguo National Forest Park demonstrates how glaciers and wild forests can exist together. The park contains a low latitude glacier in the subtropical zone. There is a big waterfall in the park, which is 500 to 1 100 m wide and 1 080 m high. The combination of glacier, plants, hot springs and the spectacular waterfall provides a comprehensive natural ecological scene. This park is well known to domestic and foreign experts and attracts many scientists, explorers, and tourists. Taibai Forest Park in Shanxi, and Zhuoer Forest Park and Ninxi Forest Park along the Tai Mountains, also contain large numbers of glacier remains.

Long Islands National Park, Shandong, is the largest island forest park. Its area is 5 700 hm². The park consists of a series of islands of Long Mountain. Its 32 steep and precipitous islands stick out into the sea. There are 99 bays on 146 km of shore. Examples are Half Moon Bay, Jiuzhang Cliff, Crystal Cave, and Dragon Claw Mountain. This is an excellent place to appreciate the waves, fog, and seascape. If lucky, a visitor may see the mirage for which the park is famous. Long Mountain Islands Forest Park, Liaoning, Big Deer Island Forest Park, Zhejiang, Pingtan Island Forest Park, Fujian, and Naoao Island Forest Park, Guangdong, are also typical of ocean parks.

The beach forest parks protect forests along the shore. These parks dot the coast from south to the north in China. Hebei Beach Forest Park, the most famous beach national park, has 6 km of seashore, a broad sea beach, tiny sands, and light waves. The water temperature is moderate and water quality is excellent. It is good for all kinds of activities in the sea. The sailing boat competition of Asia Sportsmen was held at Hebei Beach Forest Park. There are more

than 380 species of birds. Therefore, it is desirable place for domestic and international bird lovers to observe birds. The biggest open zoo in Asia is also located here. Shou Mountain Forest Park, Liaoning, the Entrance of Yellow River Forest Park, Shandong, Big Crane Forest Park, Fujian, and East Ocean Island Forest Park, Guangdong, are all famous for their excellent seashores.

Lingyan Cave National Forest Park, Jiangxi, is dense with caves. It has 36 caves in an area of 2.5 km². These caves were explored during Tang Dynasty. During the Beisong Dynasty, it was a famous tourism resort. The most representative cave is Hanxu. It is more than 100 m high and a year-around underground river flows from east to west until it reaches an underground lake that is 80 m long, 20 m wide and 10 m deep. In the middle of the underground river is "Sky River" rushing down a 14-meter waterfall from south to west. The view is so fantastic that more than 2 000 poems have been carved on the cliffs. Famous Tang Dynasty poets such as Yuefei and Zhuxi inscribed the poems. King Yu Cave Forest Park in Shanxi, Double Dragons Cave Forest Park in Zhejiang, Pingxiang Forest Park in Jiangxi, Five-dragon Cave Forest Park in Henan, Dragon Gate Cave in Sichuan, Qinghua Cave Forest Park in Yunnan, and Five-dragon Cave Forest Park in Shanxi are all cave-type forest parks.

Hot springs are sightseeing features peculiar to forest parks. Longsheng Hot Spring National Park of Guangxi has a mountain hot spring divided into two big hot spring groups. There are total of 16 springs. They spurt 529 metric tons of water per day. The water temperature of the hot springs ranges from 53 °C to 70 °C. The mineral springs can be drunk and used for medical and health purposes. These hot spring groups--with their fabulous water and dense forests, streams, valleys, thin clouds and hazes--build up a fairyland appearance (like an outside swimming pool) that has made it a famous resort in the Guangxi region. Dahei Mountain Forest Park in Liaoning, Nanxi Hot Spring National Park in Zhejiang, Yefu Mountain Forest Park in Anhui, Mingyue Mountain Forest Park in Jiangxi, Xiaokeng Forest Park in Guangdong and Taibai Forest Park in Shanxi are also becoming very popular for their high quality hot springs. In addition, Tanggou region of Benxi National Forest Park in Liaoning is famous for its boiling spring and is called "earth hot village".

Mulan Enclosure Forest Park of Hebei Province lies on the connection of the forest and grassland in Qing Dynasty. It was well known as royal hunting enclosure. It occupies about 94 000 hm² and is surrounded by wide grassland to the west north. Grasses, breezes, blue skies and white clouds compose a beautiful picture in this park. Qianshongba

Forest Park in Hebei, Huanggangliang Forest Park in Inter Mongolia and Hailaer Forest Park in Inter Mongolia are also the typical grassland type forest parks.

Garden (or suburb) type forest parks are located in cities or suburbs. They mainly provide places for citizens living in the cities to perform daily leisure activities. Garden type forest parks usually have dense scenic views and many man-made tourist locales and facilities. Garden parks are usually not large. For example, Langya Mountain National Forest Park of Anhui is located in Chuzhou city area. It was made famous by the poem of Song Dynasty poet Ouyangxiu entitled "Narration of Drunken Man Pavilion." The park contains many man-made scenes, such as Drunken Man Pavilion, Liubei Pavilion, Langya temple and others. According to Ouyangxiu's poem, people explored many scenic spots and were enriched by the Shenxiu Lake, Jiexing Pavilion, Drunken Man Yu, and Ye Fang Yuan. Langya Mountain National Forest Park provides a convenient respite for local people. On a typical day, more than 2000 people play games in the park during free admission times every morning and evening. Using the park has become a necessary thing in people's daily-life. The State Forestry Administration granted Langya Mountain National Forest Park the designation as one of ten national forest park champions. Harbin Forest Park of Heilongjiang, Mountain Forest Park of Shanghai, Yu Mountain Forest Park of Jiangsu, Orchid Pavilion Forest Park of Zhejiang, Fuzhou Forest Park of Fujian, Yuquan Temple Forest Park of Hubei and Jia Mountain Temple Forest Park of Hunan have been all been welcomed by city dwellers.

All these forest parks provide not only a rich and varied tourism experience, but also open people's minds to understand how to take advantage of the development of tourism and make forest parks an important ingredient of modern Chinese forestry. The national forest parks are usually built and developed based on national forest farms. As new trade and management methods are learned, managers renew and promote the recognition of forest value and environmental protection.

Effects of forest parks on ecotourism

The building of forest parks marks the establishment of a multi-functional understanding of forest ecology that includes tourism. Forests are no longer seen only as a source for producing timber. Therefore, effectively protecting the ecological environment has had a true influence on the development of forest parks. In 1994, the State Forestry Administration invited some experts and professors in the field of forestry to found the Committee of Forest Scene Resource Appreciation in China, which aimed at enhancing and regulating the fundamental work such as

designing forest parks and inspecting and testing for environmental quality. In 1995, an academic meeting about forest park construction was held in Tai Mountain; its theme was protecting and constructing an ecologically sound environment.

Forest parks play important roles in encouraging ecotourism and advocating healthy social behavior. Forest Tourism Propaganda Week has been held for the past two years in Beijing. The Propaganda Week has promoted forest tourism by many means, such as station information, tourism knowledge testing, printed materials, and other activities. Many forest parks work to increase natural science knowledge and enhance tourists' awareness of environmental protection by holding a summer camp for teenagers, handing out recycle bags, organizing citizens to recognize distinguished scenic trees, and other activities. The Forest International Travel Agency in Beijing has founded the Forest Tourism Amateur Club. Zhangjiajie Forest Park has held International Forest Protecting Day for 4a, aimed at encouraging people to protect the environment, founding the theme of environmental consciousness, and making friends for the earth. Seaside Forest Park in Hebei set up an open wild zoo. All these activities resulted in a large social influence. New forest tourism activities have been unceasingly produced, and leading the National Council to consider forest parks as an important ingredient of environmental protection and put Parks into the white book entitled *Environment Protection of China*.

The increase in tourism at forest parks has enhanced economic profits. From the perspective of a market economy, forest tourism is a good thing. However, increasing numbers of tourists, tourism behavior and the need to protect environmental values will inevitably bring out contradictions, which will lead to many environmental problems involving soils, plants, water and wild animals. Therefore, after a systematic study many experts described new theories, such as "Island Theory", "Capacity of Environment", "Grade of Refreshment Area theory" and others (Chen 1992). All these theories were devoted to solving the contradiction between human actions and environmental protection. China began later than some developed countries in establishing forest parks and developing forest ecotourism. It is useful for China to absorb others' as it develops its forest management practices. Therefore, the State Forestry Administration issued "Forest Parks Administration Methods" in early 1994. In 1997, the State Forestry Administration sent out a notice of "Found Civilization Forest Parks," in which it promulgated orders about protection and construction of forest parks to assure forest ecology tourism develops healthily in China.

The sustainable development of forest ecotourism

People's life has two basic conditions: material needs and ecological needs. The ecological needs are more difficult to meet than the material needs. The fact is that in modern China delicious food is easy to get while fresh air is difficult to get. In the cities, tall buildings are increasing in number and the noise never dies away. Therefore, concern about ecological meanings and quality of life has increased. The creation of forest parks and ecological tourism is a very important way to improve the quality of life and satisfy peoples' ecological needs. The Chinese people have a belief that the sky and persons are united and nature and people support each other. Nowadays, because of continual development the quality of the environment and natural resources is the basis of forest tourism development. The development of forest ecotourism is based on environmental protection and distribution of resources based on the principle of sustainable development. This satisfies the needs of the people's tourism movement.

Rapidly developing tourism causes some negative results. Pollution of the environment, and destruction of natural resources and the environment are the great problems related to people's life. Therefore, people must find a way to develop tourism and change the traditional development model by reconciling economic development with environmental protection. As the largest ecological system on the land, the forest is the cradle of human civilization and is the key to the balance of nature. If there is no forest, there is no human being. The result of destroying the forest is the disaster of human beings. From ancient's disappearance to the global greenhouse effect, it has been seen that the forest park is a relatively independent ecological and economic system that takes shape in the development of social civilization. The principle of the forest park is the development of human beings in terms of biology and environment. Forest parks are designed to allow the sustained use of natural resources and foster improvement of the natural environment. The purpose of the forest park is not only to satisfy the needs of this generation, but also to make sure to meet the need of future generations. This idea is behind the development of all kinds of ecological tourism.

Drawing on developed countries' experiences, we bring up the following points about the development of forest ecology tourism in China, based on our own conditions.

(1) Because the important features of the forest ecological system are not only the soil but also the plant's leaves and trees, the construction of forest

parks has everlasting developmental significance based on protecting scenic resources of the forest. The attraction of forest parks mainly is plants and the natural environment. Depending on plant form, color, character and mind, the forest park creates many grades and functions. People experience the natural character and enjoy nature during an ecological tour. The environmental quality of a forest park lies in the form and character of forest scenic resources, so forest park construction should emphasize biological resources in the planning process. We should combine landscape design, environmental protection, installation construction and design, and forest protection and fire prevention to achieve the goals of ecological stability, social benefits, and economy.

(2) Ecotourism is not simply "sensitive consumption". With increasing human activities, the natural environment will be affected inevitably, even be destroyed. For example, the tourists returning from abroad want to observe the sea turtles laying eggs. In order to catch the moment, people use light to brighten the area. It causes the sea turtles to lose their way and they cannot lay eggs. Some tourists chase whales, separating whales from their babies. Thus, whales can't appear on the surface of the sea. Huang Shan Mountain was once a pile of garbage. Therefore, when working out the general plan of a forest park, we must assess the park's geological and biological resources, and environmental quality. Through this research we can prepare to minimize environmental damage resulting from tourism activities, and we can take corrective measures, such as taking strong measures to control pollution.

(3) Increasing tourism causes changes in biological resources. Overcrowding by tourists not only decreases the economic benefits of the park, but also affects the proper use of the resource. Research to determine the environmental condition and inventory of a park is important to the sustained development of the park. In forest parks or other scenic parks, the relation between tourist's qualities and environmental degradation increase at different speeds. The degree of environmental degradation also depends on the amount of time, types, ways and places where the tourists visit and on how the park is managed. It is difficult to predict the amount of tourism that causes harm to a park, because environmental capacity is complex. The capacity of a park to retain its environmental quality is based on a combination of natural factors, management options, and visitor behavior.

(4) To ensure high quality ecotourism the plan for the park must follow proper principles: Cause no environmental destruction; blend parks harmoniously with the natural surroundings; improve the quality of visitor facilities; and prevent pollution. The goal is to allow tourists to enjoy the beautiful surroundings.

(5) As ecotourism is developed, success will depend on the values of Chinese national civilization. The Chinese culture will play an important role and greatly influence how sustainable development is established within the parks. Ecotourism must be compatible with Chinese culture and rely on that culture as an ecotourism resource. To the extent that parks lose their unique Chinese identity, they are not as valuable to the Chinese people and are not attractive to international tourists.

(6) During the process of promoting ecotourism in forest parks, managers must balance laws and orders promulgated by the government with the philosophy of the overall well being of the environment and the Chinese people. Ecotourism's continual development will be all human being's call; it will be tourism with the most life and the most property.

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